

REMARKS

The Final Office Action mailed May 30, 2008 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

Record of Interview

On May 22, 2008, an interview was conducted by telephone between Examiner Dinh and the undersigned. The Applicants thank the Examiner for granting this interview. The details of the interview are set forth in the Interview Summary document made of record.

Claim Status and Amendment of the Claims

Claims 1-4, 9-24, 26, 30-32, 52, 63-85, and 87-91 are currently pending.

No claims stand allowed.

Claims 5-8, 25, 27-29, 33-51, and 53-62 were previously cancelled, without prejudice or disclaimer of the subject matter contained therein.

Claims 1, 9, 13, 16, 17, 20, 26, 30, 31, 63, 66, 68, 69, 71, 74, 76, 78, 81, and 83 have been amended to describe embodiments of the present invention with more particularity. Specifically, Claims 1, 9, 13, 17, 20, 30, 63, 66, 68, 69, 71, 74, 76, 78, 81, and 83 have been amended in accordance with the Examiner interview conducted on May 22, 2008 and the proposed Examiner's Amendment (unentered) filed on May 29, 2008.

No "new matter" has been added by the Amendment.

The First 35 U.S.C. § 103 Rejection

Claims 1-4, 9-23, 26, 30-31, 52, 63-85 and 87-91 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dixon et al.¹ in view of Lamarque III et al.,² among which claims 1, 9, 13, 17, 20, 30, 63, 66, 68, 69, 71, 74, 76, 78, 81, and 83 are independent claims.³ This rejection is respectfully traversed.

According to the Manual of Patent Examining Procedure (M.P.E.P.),

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references

¹ U.S. Patent No. 6,058,424 to Dixon et al.

² U.S. Patent No. 6,690,651 to Lamarque, III et al.

³ Office Action mailed May 30, 2008, ¶ 3.

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure.⁴

Claim 1

Claim 1 as presently amended recites:

A backup server for enabling a data communications network to recover from a local server failure, the backup server comprising:
an information packet requester configured to request an information packet from a memory associated with the a network access server (NAS) in response to a call received from the NAS, if the call information is not available to the backup server, the information packet associated with an ongoing call placed by a call-in user via the NAS, the information packet containing call information for maintaining connection of the ongoing call if the local server fails;
an information packet receiver responsive to the local server failure, the information packet receiver receiving the information packet from a memory associated with a network access server (NAS), the NAS configured to couple a call placed from the call-in user to the data communications network and providing a network connection to the local server; and
a parser configured to reconstruct the call information from the information packet, such that the backup server maintains the ongoing call to the data communications network.

The Examiner states,

Dixon discloses a backup server (new application server for taking over data as the original application server fails) for enabling a data communications network to recover from a failure of said local server (original application server), comprising:

an information packet receiver responsive to the local server failure, the information packet receiver receiving from the memory associated with the NAS an information packet associated with a user request placed by the user via the NAS, wherein the information packet containing call information for maintaining connection of the ongoing call if the local server fails (taking over session as the original server fails, see abstract, figs. 1, 5, col.3 lines 11-44 and col.7 line 53 to col.8 line 51 and col.9 line 46 to col.10 line 17);

⁴ M.P.E.P § 2143.

the NAS capable of coupling a call placed from the call-in user to the data communications network and providing a network connection to the local server (the control server sends a callback to the original application server to indicate that the session takeover has started, see col.10 lines 4-36);

a parser for reconstructing the call information data from said information data from the information data packet, whereby the server maintains the user request to the communications network (reconstructing information regarding all necessary session resources, see col. 10 lines 18-36).

Dixon does not specifically disclose that user placing a request by calling in. However, Lamarque discloses a user placing a request by calling in [using a user (122 fig. 1) to initiate a call at a terminal to communicate with the servers and networks, see fig. 1, col.3 line 22 to col.4 line 24]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Lamarque's teachings into the computer system of Dixon to request data information through a network because it would have enabled user to bypass long distance carriers and their permanent usage rates and to run voice traffic over the Internet (see Lamarque's col. 1 lines 24-67).⁵

With this Amendment, Claims 1, 9, 13, 17, 20, 30, 63, 66, 68, 69, 71, 74, 76, 78, 81, and 83 have been amended in accordance with the Examiner interview conducted on May 22, 2008 and the proposed Examiner's Amendment (unentered) filed on May 29, 2008.

Furthermore, each of independent Claims 1, 9, 13, 17, 20, 30, 63, 66, 68, 69, 71, 74, and 76 recites in part that the NAS is capable of coupling a call placed from the call-in user to the data communications network and providing a network connection to the local server. This is not disclosed by Dixon et al. in view of Lamarque III et al.

In the Office Action, the Examiner contends that the elements of the presently claimed invention are disclosed in Dixon et al. except that Dixon et al. does not teach "that user placing a request by calling in."⁶ The Examiner further contends that Lamarque III et al. teaches "a user placing a request by calling in," and that it would be obvious to one having ordinary skill in the art at the time of the invention to incorporate Lamarque III et al.'s teachings into the computer system of Dixon et al. "to request data information through a network because it would have enabled user to bypass long distance carriers and their permanent usage rates and to run voice traffic over the Internet."⁷ The Applicants respectfully disagree for the reasons set forth below.

⁵ Office Action at pp. 3-4.

⁶ Office Action dated June 6, 2007, pp. 3-4.

⁷ Office Action dated June 6, 2007, pp. 3-4.

Claim 1 defines a backup server for enabling a data communications network to recover from a local server failure. The claimed backup server comprises (a) an information packet receiver responsive to the local server failure, the information packet receiver receiving from a memory associated with a network access server (NAS) an information packet associated with an ongoing call placed by the call-in user via the NAS, the information packet containing call information for maintaining connection of the ongoing call if the local server fails, the NAS capable of coupling a call placed from the call-in user to the data communications network and providing a network connection to the local server; and (b) a parser for reconstructing the call information from the information packet, such that the backup server maintains the ongoing call to the data communications network.

Regarding Dixon et al.:

In the Office Action, the Examiner specifically equates the control server (111 in FIG. 1 or 211 in FIG. 2 thereof) of Dixon et al. with the claimed network access server (NAS) of Claim 1, the original application server of Dixon et al. (208 in FIG. 2 thereof) with the local server of Claim 1, the new application server of Dixon et al. (209 or 210 in FIG. 2 thereof) with the backup server of Claim 1, and the client of Dixon et al. (101 in FIG. 1 or 201 in FIG. 2 thereof) with the user of Claim 1, citing the abstract, FIGS. 1 and 5, column 3, lines 11-44, column 7, line 53 to column 8, line 51, column 9, line 46 to column 10, line 17, and column 10, lines 18-36 of Dixon et al.⁸

However, in Dixon et al., it is the application server 208 that “handles communication with a client (the alleged user) requesting an asset” (column 4, lines 13-14 thereof), not the control server 211. Dixon et al.’s control server 211’s functionality only includes “selection of data pumps and command processing,” controlling the number of multimedia or audio/video data streams, providing multimedia file data stream control functions such as “play”, “stop”, “pause”, “rewind”, and “forward”, resource management such as admission control and load balancing, and storing a catalog of multimedia assets (see column 3, line 66 through column 4, line 12 of Dixon et al.). That is, functions performed by Dixon et al.’s control server 211 are limited to control of multimedia data streams and management of the data. In addition, as shown in FIG. 2 thereof,

the client system 201 directly communicates with the application server 208 (the alleged local server) in the multimedia server system 203 without intermediation by the control server 211.

Accordingly, Dixon et al.'s does not teach or suggest control server 211 coupling a user's request (or alleged call) to the network 105 or providing a network connection to the application server 208 (the alleged local server), as required by Claim 1.

Since Dixon et al. fails to teach or suggest the claimed NAS, Dixon et al. also fails to teach or suggest a memory associated with the NAS, from which an information packet containing call information for maintaining connection of an ongoing call if the local server fails is received, as required by Claim 1.

In response, the Examiner states:

Dixon discloses the Applicant's claimed invention by showing a memory (allocating a memory space for the new application server) associated with a NAS capable of coupling a call placed from the call-in user to the data communications network and providing a network connection the local server (implementing the control server for sending a callback to the original application server to indicate that the session takeover has started, see col. 10 lines 4-36).⁹

The Applicant respectfully disagrees. Again, the functions performed by Dixon et al.'s control server 211 are limited to control of multimedia data streams and management of the data. In addition, and the client system 201 of Dixon et al. directly communicates with the application server 208 (the alleged local server) in the multimedia server system 203 *without* intermediation by the control server 211. (emphasis added) As such, Dixon et al. in view of Lamarque III et al. cannot be said to teach or suggest the limitations found in Claim 1. Accordingly, withdrawal of the 35 U.S.C. § 103 Rejection as to Claims 1, 9, 13, 17, 20, 30, 63, 66, 68, 69, 71, 74, and 76 is respectfully requested.

Regarding Lamarque III et al. and its alleged combination with Dixon et al.:

Lamarque III et al. relates to the Internet telephony which is also referred to as "voce over IP" (VoIP). The system of Lamarque III et al. routes only voice messages, and is not suitable to request data (web-access) or to transmit data over the Internet. Accordingly, those of ordinary

⁸ Office Action dated June 6, 2007, pp. 3-4.

⁹ Office Action at p. 12.

skill in the art would not utilize Lamarque III et al.’s teachings into Dixon et al. “to request data information through a network,” contrary to the Examiner’s allegation.

In addition, the alleged advantages of utilizing Lamarque III et al. would make sense only when it is compared with a conventional long distance call using a traditional telephone (voice) system (or PSTN 102 in FIG. 1 of Lamarque III et al.), not with a traditional data request/transmission system over the Internet (such as Dixon et al.’s). It should be noted that Lamarque III et al.’s idea (VoIP) is to utilize a conventional data request/transmission system over IP (such as that of Dixon et al.) to make telephone calls such that a long-distance voice call can be made in a similar manner as a data request/transmission using a local call (dial-up) to a nearby access point which is typically provided by an Internet Service Provider (ISP). That is, the user 124 (caller) can use a local Internet access point (gateway 128 or 114) (i.e., a local phone call) to reach a receiver in a distant area 140 (see FIG. 1 of Lamarque III et al.). On the other hand, in Dixon et al.’s system, access to a server or servers on a network such as a local network (LAN), an intranet, or the Internet (World Wide Web) (see column 1, lines 15-20 thereof) does not use long distance carriers and thus does not incur any long-distance usage rates.

Accordingly, not only the Lamarque III et al.’s system would not be operable in Dixon et al.’s system, but also the alleged modification does not provide any advantages of bypassing long distance carriers and their permanent usage rates, failing to provide required motivation to combine.

Furthermore, even if Lamarque III et al.’s alleged teaching of the “call-in” user is allegedly combined with Dixon et al., the modified call-in user (replacing Dixon et al.’s client 101) would not place a call to Dixon et al.’s control server 111 because Dixon et al.’s control server 111, which is on the other side of the network 105, as is apparent from FIG. 1 of Dixon et al., cannot couple the alleged call to the alleged data communication network 105, as recited in Claim 1.

Consequently, (i) Dixon et al., whether considered alone or combined with the alleged teachings of Lamarque III et al., does not teach or suggest the claimed backup server as recited in Claim 1, (ii) the alleged combination is not obvious because the prior art fails to provide required

motivation for combination, and (iii) even if Dixon et al. and Lamarque III et al. are allegedly combined, the modified system is inoperable, further rendering the alleged combination unobvious.

Accordingly, it is respectfully requested that the rejection of Claim 1 based on Dixon et al. and Lamarque III et al. be withdrawn.

Independent Claims 9, 13, 17, 20, 30, 63, 66, 68, 69, 71, 74, 76

Presently amended claims 9, 13, 17, 20, 30, 63, 66, 68, 69, 71, 74, and 76 recite, *inter alia*, substantially the same distinctive features as discussed above with respect to Claim 1. Accordingly, the discussions above are equally applicable to these claims and thus these claims are also patentable over Dixon et al. and Lamarque III et al. at least for the same reasons.

Dependent Claims 2-4, 10-12, 14-16, 18-19, 21-23, 25-26, 31, 52, 64-65, 67, 70, 72-73, 75, 77, 85, and 87-91

Claims 2-4 and 85 depend from Claim 1, Claims 10-12 and 87 depend from Claim 9, Claims 14-16 and 88 depend from Claim 13, Claims 18-19, 52 and 89 depend from Claim 17, Claims 21-23, 26 and 90 depend from Claim 20, Claims 31 and 91 depend from Claim 30, Claims 64-65 depend from Claim 63, Claim 67 depends from Claim 66, Claim 70 depends from Claim 69, Claims 72-73 depend from Claim 71, Claim 75 depends from Claim 74, and Claim 77 depends from Claim 76, and thus include the limitations of respective independent claims. The argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable at least for the same reasons.

The Second 35 U.S.C. § 103 Rejection

Claims 24 and 32 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dixon et al. and Lamarque et al. as applied to claims 20-23 and 30-31 above, and further in view of Cisco,¹⁰ among which no claims are independent claims.¹¹ This rejection is respectfully traversed.

¹⁰ “Network Wide Solution Manager Providers to Maximize Revenue from Dial VPN,” Cisco Systems, April 5, 1999.

Claim 24

Claim 24 recites:

A server backup system according to claim 20, wherein the server is a resource pool manager server (RPMS).

Claim 32

Claim 32 recites:

A server backup system according to claim 30, wherein the first server is a resource pool manager server (RPMS) and the second server is a backup RPMS.

The Examiner states,

... Neither Dixon nor Lamarque discloses using a Resource Pool Manager Server. However, Cisco discloses a Resource Pool Manager Server (see page 1). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to implement a Resource Pool Manager Server in the computer system of Dixon to enhance the functionality of access servers because it would have provided Internet Service Providers and Telecommunications carriers with a robust solution for managing concurrent dial network services across single or multiple network access servers.¹²

The Applicants respectfully disagree. The arguments made above with respect to the 35 U.S.C. § 103 rejection of Claim 1 apply here as well. The 35 U.S.C. § 103 rejection of Claim 1 is unsupported by the cited art of record because Dixon et al. in view of Lamarque III et al. does not teach or suggest all claim limitations. Accordingly, the 35 U.S.C. § 103 rejection of dependent claims 24 and 32 based on Dixon et al. in view of Lamarque III et al. and further in view of Cisco is also unsupported by the cited art of record. Thus, a *prima facie* case has not been established and the rejection must be withdrawn.

Claims 78-80, 81-82, and 83-84

As an initial matter, the Applicant notes Claims 78-80, 81-82, and 83-84 were previously rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Dixon et al. in view of

¹¹ Office Action at ¶ 4.

¹² Office Action, p. 11.

Lamarque et al.¹³ The Examiner's present rejection of Claims 78-80, 81-82, and 83-84 under 35 U.S.C. § 103 is the same as the Examiner's previous rejection of Claims 78-80, 81-82, and 83-84 under 35 U.S.C. § 103. In the Applicant's Response dated September 6, 2007, the Applicant presented several arguments traversing the rejection of Claims 78-80, 81-82, and 83-84 under 35 U.S.C. § 103. Specifically, the Applicant argued that the Examiner had not shown for each means-plus-function claim, that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function.¹⁴ Considering that the Examiner has not provided any comments or rebuttal to Applicant's argument, but only restated prior rejections, it can be assumed that the Examiner agrees to the Applicant's arguments and that Claims 78-80, 81-82, and 83-84 are allowable.¹⁵

Again, Claims 78-80, 81-82, and 83-84 are means-plus-function claims. In support of the 35 U.S.C. § 10 rejection of Claims 78-80, 81-82, and 83-84 based on Dixon et al. in view of Lamarque III et al., the Examiner refers to the rejection of method claim 65, and non-means-plus-function apparatus claims 1, 2, 9, and 17.¹⁶ The Examiner is referred to the U.S. Patent and Trademark Office document entitled "Examination Guidelines For Claims Reciting A "Means or Step Plus Function" Limitation In Accordance With 35 U.S.C § 112, 6th Paragraph" ("Guidelines"), a copy of which is submitted herewith for the Examiner's convenience. The Guidelines state:

... Per our holding, the 'broadest reasonable interpretation' that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, *the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a Patentability determination ...*

... [The] examiner shall interpret a § 112, 6th paragraph "means or step plus function" limitation in a claim as limited to the corresponding structure, materials or acts described in the specification and equivalents thereof in acts accordance with the following guidelines.¹⁷

¹³ Final Office Action mailed June 6, 2007, at ¶ 3.

¹⁴ Response dated September 6, 2007, at pp. 28-29.

¹⁵ *In re Herrmann*, 261 F.2d 598 (CCPA 1958) (The court noted that since applicant's arguments were not questioned by the examiner, the court was constrained to accept the arguments at face value and thus held the claims to be allowable); *See In re Soni*, 54 F.3d 746 (Fed. Cir. 1995).

¹⁶ Office Action at p. 10.

¹⁷ "Examination Guidelines For Claims Reciting A "Means or Step Plus Function" Limitation In Accordance With 35 U.S.C § 112, 6th Paragraph," U.S. Patent and Trademark Office, <http://www.uspto.gov/web/offices/pac/dapp/pdf/exmgu.pdf>, p. 1. (emphasis added)

The Guidelines state further:

... if a prior art reference teaches identity of function to that specified in a claim, then under Donaldson an examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function.¹⁸

As Claims 78-80, 81-82, and 83-84 of the present application are means-plus-function claims and Claims 1, 2, 9, 17, and 65 of the instant application are non-means-plus-function claims, they cannot be said to be drawn to identical subject matter. Furthermore, the Examiner has not shown for each means-plus-function claim, that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function. Therefore, the Examiner has not established a *prima facie* case and the 35 U.S.C. § 103 rejection of Claims 78-80, 81-82, and 83-84 must be withdrawn.

In response, the Examiner states:

Examiner respectfully disagrees. In the claims, Examiner has shown that the cited references disclose the Applicant's claimed invention completely. As long as the references fully disclose the apparatus similar to the steps or means plus function, they disclose the Applicant's claimed invention. The Applicant's argument is fully considered but they are found not persuasive.¹⁹

The Applicants respectfully submit the Examiner's rejection still fails to follow the Examination Guidelines for means-plus-function claims. The Examiner's statement “[a]s long as the references fully disclose the apparatus similar to the steps or means plus function, they disclose the Applicant's claimed invention” finds no support in the Patent Rules and Regulations, nor has the Examiner provided a citation to support the statement. The Examiner's rejection of the present means-plus-function apparatus claims fails to even mention structure described in the specification, let alone show that the prior art structure is the same as or equivalent to the structure described in the specification which has been identified as corresponding to the claimed means plus function. (emphasis added) For at least this reason, a *prima facie* case has not been established with respect to means-plus-function apparatus claims 78-80, 81-82, and 83-84.

¹⁸ Guidelines at p. 3. (emphasis in original)

¹⁹ Office Action at p. 13.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Conclusion

It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

The Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Please charge any additional required fee or credit any overpayment not otherwise paid or credited to our deposit account No. 50-1698.

Respectfully submitted,
THELEN LLP

Dated: September 30, 2008

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**Examination Guidelines For Claims
Reciting A "Means or Step Plus Function" Limitation
In Accordance With 35 U.S.C § 112, 6th Paragraph**

The purpose of this memo is to set forth guidelines for the examination of § 112, 6th paragraph "means or step plus function" limitations in a claim. The court of Appeals for the Federal Circuit, in its en banc decision In re Donaldson 29 USPQ 2d 1845 (Fed. Cir. 1994), decided that a "means-or-step-plus-function" limitation should be interpreted in a manner different than patent examining practice has dictated for at least the last forty-two years. The Donaldson decision affects only the manner in which the scope of a "means or step plus function" limitation in accordance with § 112, 6th paragraph, is interpreted during examination. Donaldson does not directly affect the manner in which any other section of the patent statutes is interpreted or applied.

When making a determination of patentability under 35 U.S.C. §§ 102 or 103, past practice was to interpret a "means or step plus function" limitation by giving it the "broadest reasonable interpretation." Under the PTO's long-standing practice this meant interpreting such a limitation as reading on any prior art means or step which performed the function specified in the claim without regard for whether the prior art means or step was equivalent to the corresponding structure, material or acts described in the specification. However, in Donaldson the Federal Circuit stated that:

Per our holding, the "broadest reasonable interpretation" that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a Patentability determination. 1

Thus, effective immediately, examiner shall interpret a § 112, 6th paragraph "means or step plus function" limitation in a claim as limited to the corresponding structure, materials or acts described in the specification and equivalents thereof in accordance with the following guidelines.

I. Identifying a § 112, 6th paragraph limitation

¹In re Donaldson, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994).

Although there is no magic language that must appear in a claim in order for it to fall within the scope of § 112, 6th paragraph, it must be clear that the element in the claim is set forth, at least in part, by the function it performs as opposed to the specific structure, material, or acts that perform the function. Limitations that fall within the scope of § 112, 6th paragraph include:

- (1) a jet driving device so constructed and located on the rotor as to drive the rotor . . . ² ["means" unnecessary]
- (2) "printing means" and "means for printing" would have the same connotations ³
- (3) force generating means adapted to provide . . . ⁴
- (4) call cost register means, including a digital display for providing a substantially instantaneous display for . . . ⁵
- (5) reducing the coefficient of friction of the resulting film⁶ [step plus function; "step" unnecessary], and
- (6) raising the Ph of the resultant pulp to about 5.0 to precipitate . . . ⁷

²The term "device" coupled with a function is a proper definition of structure in accordance with the last paragraph of § 112. The addition of the words "jet driving" to the term "device" merely renders the latter more definite and specific. Ex parte Stanley, 121 USPQ 621 (Bd. APP. 1958).

³Ex parte Klum, 159 USPQ 694 (Bd. App. 1967). However, the terms "plate" and "wing", as modifiers of the structureless term "means," specify no function to be performed, and do not fall under the last paragraph of § 112.

⁴De Graffenreid v. U.S., 20 Ct. Cl. 458, 16 USPQ2d 1321 (Ct. Cl. 1990)

⁵Intellicall Inc. v. Phonometrics Inc., 952 F.2d 1384, 21 USPQ2d 1383 (Fed. Cir. 1992).

⁶In re Roberts, 470 F.2d 1399, 176 USPQ 313 (CCPA 1973).

⁷Ex parte Zimmerley, 153 USPQ 367 (Bd. App. 1966)

In the event that it is unclear whether the claim limitation falls within the scope of §112, 6th paragraph, a rejection under §112, 2d paragraph may be appropriate.

Donaldson does not affect the holding of In re Hyatt, 708 F.2d 712, 218 USPQ 195 (Fed. Cir. 1983) to the effect that a single means claim does not comply with the enablement requirement of § 112, first paragraph. As Donaldson applies only to an interpretation of a limitation drafted to correspond to § 112, 6th paragraph, which by its terms is limited to "an element in a claim to a combination," it does not affect a limitation in a claim is not directed to a combination.

II. Examining Procedure

A. Scope of the Search and Identification of the Prior Art

As noted above, in Donaldson the Federal Circuit recognized that it is important to retain the principle that claim language should be given its broadest reasonable interpretation. This principle is important because it helps insure that the statutory presumption of validity attributed to each claim of an issued patent is warranted by the search and examination conducted by the examiner. It is also important from the standpoint that the scope of protection afforded by patents issued prior to Donaldson are not unnecessarily limited by the latest interpretation of this statutory provision. Finally, it is important from the standpoint of avoiding the necessity for a patent specification to become a catalogue of existing technology. ⁸

The Donaldson decision thus does not substantially alter examining practice and procedure relative to the scope of the search. Both before and after Donaldson, the application of a prior art reference to a means or step plus function limitation requires that the prior art element perform the identical function specified in the claim. However, if a prior art reference teaches identity of function to that specified in a claim, then under Donaldson an examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function.

⁸A patent specification need not teach, and preferably omits, what is well known in the art. Hybritech Inc. v. Monoclonal Antibodies. Inc., 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986).

The "means or step plus function" limitation should be interpreted in a manner consistent with the specification disclosure. If the specification defines what is meant by the limitation for the purposes of the claimed invention, the examiner should interpret the limitation as having the meaning. If no definition is provided, some judgment must be exercised in determining the scope of the limitation.

B. Making a prima facie case of equivalence

If the examiner finds that a prior art element performs the function specified in the claim, and is not excluded by any explicit definition provided in the specification for an equivalent, the examiner should infer from that finding that the prior art element is an equivalent, and should then conclude that the claimed limitation is anticipated by the prior art element. The burden then shifts to applicant⁹ to show that the element shown in the prior art is not an equivalent of the structure, material or acts disclosed in the application. In re Mulder, 716 F.2d 1542, 219 USPQ 189 (Fed. Cir. 1983).¹⁰ The factors to be

⁹No further analysis of equivalents is required of the examiner until applicant disagrees with the examiner's conclusion, and provides reasons why the prior art element should not be considered an equivalent.

¹⁰See also, In re Walter, 618 F.2d at 768, 205 USPQ at 407-08, (a case treating § 112, 6th paragraph, in the context of a determination of statutory subject matter and noting "If the functionally-defined disclosed means and their equivalents are so broad that they encompass any and every means for performing the recited functions . . . the burden must be placed on the applicant to demonstrate that the claims are truly drawn to specific apparatus distinct from other apparatus capable of performing the identical functions"); In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (C.C.P.A. 1971) (a case in which the CCPA treated as improper a rejection under § 112, 2d paragraph, of functional language, but noted that "where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied on"); and In re Fitzgerald 619 F.2d 67, 205 USPQ 594 (CCPA 1980) (a case indicating that the burden of proof can be shifted to the applicant to show that the subject matter of the prior art does not possess the characteristic relied on whether the rejection is based on inherency under § 102 or obviousness under § 103).

considered when determining whether the applicant has successfully met the burden of proving that the prior art element is not equivalent to the structure, material or acts described in the applicant's specification are discussed below.

However, even where the applicant has met that burden of proof and has shown that the prior art element is not equivalent to the structure, material or acts described in the applicant's specification, the examiner must still make a §103 analysis to determine if the claimed means or step plus function is obvious from the prior art to one of ordinary skill in the art. Thus, while a finding of non equivalence prevents a prior art element from anticipating a means or step plus function limitation in a claim, it does not prevent the prior art element from rendering the claim limitation obvious to one of ordinary skill in the art.

Because the exact scope of an "equivalent" may be uncertain, it would be appropriate to apply a §102/§103 rejection where the balance of the claim limitations are anticipated by the prior art relied on.¹¹ In addition, although it is normally the best practice to rely on only the best prior art references in rejecting a claim, alternative grounds of rejection may be appropriate where the prior art shows elements that are different from each other, and different from the specific structure, material or acts described in the specification, yet perform the function specified in the claim.

C. Determining whether an applicant has met the burden of providing non-equivalence after a *prima facie* case is made

If the applicant disagrees with the inference of equivalence drawn from a prior art reference, the applicant may provide reasons why the applicant believes the prior art element should not be considered an equivalent to the specific structure, material or acts disclosed in the specification. Such reasons may include, but are not limited to: 1) teachings in the specification that particular prior art is not equivalent, 2) teaching in the prior art reference itself that may tend to show non-equivalence, or 3) Rule 132 affidavit evidence of facts tending to show non-equivalence.

When the applicant relies on teachings in applicant's own specification, the examiner must make sure that the applicant is interpreting the "means or step plus function" limitation in the

¹¹A similar approach is authorized in the case of product-by--process claim because the exact identity of the claimed product or the prior art product cannot be determined by the examiner. In re Brown, 450 F.2d 531, 173 USPQ 685 (CCPA 1972).

claim in a manner which is consistent with the disclosure in the specification. If the specification defines what is meant by "equivalents" to the disclosed embodiments for the purpose of the claimed means or step plus function, the examiner should interpret the limitation as having that meaning. If no definition is provided, some judgment must be exercised in determining the scope of "equivalents." Generally, an "equivalent" is interpreted as embracing more than the specific elements described in the specification for performing the specified function,¹² but less than any element that performs the function specified in the claim.

The scope of equivalents embraced by a claim limitation is dependent on the interpretation of an "equivalent". The interpretation will vary depending on how the element is described in the supporting specification. The claim may or may not be limited to particular structure, material or acts (e.g. steps) as opposed to any and all structure, material or acts performing the claimed function, depending on how the specification treats that question.

If the disclosure is so broad as to encompass any and all structure, material or acts for performing the claimed function, the claims must be read accordingly when determining patentability. When this happens the limitation otherwise provided by "equivalents" ceases to be a limitation on the scope of the claim in that an equivalent would be any structure, material or act other than the ones described in the specification that perform the claimed function. For example, this situation will often be found in cases where (1) the claimed invention is a combination of elements, one or more of which are selected from elements that are old *per se*, or (2) apparatus claims are treated as indistinguishable from method claims.¹³

¹²To interpret "means plus function" limitations as limited to a particular means set forth in the specification would nullify the provisions of § 112 requiring that the limitation shall be construed to cover the structure described in the specification and equivalents thereof. D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 225 USPQ 236, 238 (Fed. Cir. 1985).

¹³See, for example, In re Meyer, 688 F.2d 789, 215 USPQ 193 (1982); In re Abele, 618 F.2d at 768, 205 USPQ at 401-08; In re Walter, 618 F.2d 758, 767, 205 USPQ 397, 406-07 (C.C.P.A. 1980); In re Maucorps, 609 F.2d 481, 203 USPQ 812 (C.C.P.A. 1979); In re Johnson, 589 F.2d, 1070, 200 USPQ 199 (C.C.P.A. 1978); and In re Freeman, 573 F.2d at 1246, 197 USPQ at 471.

On the other end of the spectrum, the "equivalents" limitation as applied to a claim may also operate to constrict the claim scope to the point of covering virtually only the disclosed embodiments. This can happen in circumstances where the specification describes the invention only in the context of a specific structure, material or act that is used to perform the function specified in the claim.

When deciding whether an applicant has met the burden of proof with respect to showing non-equivalence of a prior art element that performs the claimed function, the following factors may be considered. First, unless an element performs the identical function specified in the claim, it cannot be a equivalent for the purpose of §112, 6th paragraph. 14

Second, while there is no litmus test for an "equivalent" that can be applied with absolute certainty and predictability, there are several indicia that are sufficient to support a conclusion that one element is or is not an "equivalent" of a different element in the context of § 112, 6th paragraph. Among the indicia that will support a conclusion that one element is or is not an equivalent of another are:

- 1) Whether the prior art element performs the function specified in the claim in substantially the same results as the corresponding element disclosed in the specification. 15
- 2) Whether a person of ordinary skill in the art would have recognized the interchangeability of the element shown in the prior art for the corresponding element disclosed in the specification. 16

¹⁴ Pennwalt Corp. v. Durand-Wayland Inc . 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987), cert. denied, 484 U.S. 961 (1988).

¹⁵ Lockheed Aircraft Corporation v. United States , 193 USPQ 449, 461 (Ct. Cl. 1977). Graver Tank concepts of equivalents are relevant to any "equivalents" determination. Polumbo v. Don-Joy Co. , 762 F.2d 696, 975, n. 4, 226 USPQ 5, 8-9, n. 4 (Fed. Cir. 1985).

¹⁶ Lockheed Aircraft Corporation v. United States , 193 USPQ 449, 461 (Ct. Cl. 1977). Data Line Corp. v. Micro Technologies. Inc ., 813 F.2d 1196, 1 USPQ2d 2052 (Fed. Cir. 1987).

- 3) Whether the prior art element is a structural equivalent of the corresponding element disclosed in the specification being examined.¹⁷ That is, the prior art element performs the function specified in the claim in substantially the same manner as the function is performed by the corresponding element described in the specification.
- 4) Whether the structure, material or acts disclosed in the specification represents an insubstantial change which adds nothing of significance to the prior art element. ¹⁸

These examples are not intended to be an exhaustive list of the indicia that would support a finding that one element is or is not an equivalent of another element for the purposes of § 112, 6th paragraph. A finding according to any of the above examples would represent a sufficient, but not the only possible, basis to support a conclusion that an element is or is not an equivalent. There could be other indicia that also would support the conclusion.

In determining whether arguments or Rule 132 evidence presented by an applicant are persuasive that the element shown in the prior art is not an equivalent, the examiner should consider and weigh as many of the above-indicated or other indicia as are presented by applicant, and should determine whether, on balance, the applicant has met the burden of proof to show non-equivalence. However, under no circumstance should an examiner accept as persuasive a bare statement or opinion that the element shown in the prior art is not an equivalent embraced by the claim limitation. Moreover, if an applicant argues that the "means" or "step" plus function language in a claim is limited to certain specific structural or additional functional characteristics (as opposed to "equivalents" thereof) where the specification does not describe the invention as being only those specific characteristics, the claim should not be allowed until the claim is amended to recite those specific structural or additional functional characteristics. ¹⁹

¹⁷ In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

¹⁸ Valmont Industries Inc. v. Reinke Manufacturing Co. Inc., 983 F.2d 1039, 25 USPQ2d 1451 (Fed. Cir. 1993).

¹⁹ Otherwise, a claim could be allowed having broad functional language which in reality is limited to only the specific structure or steps disclosed in the specification. This would be

Finally, as in the past, applicant has the opportunity during proceedings before the Office to amend the claims so that the claimed invention meets all the statutory criteria for patentability. An applicant may choose to amend the claim by further limiting the function so that there is no longer identity of function with that taught by the prior art element, or the applicant may choose to replace the claimed means plus function limitation with specific structure material or acts that are not described in the prior art.

D. Related issues under Section 112 first or second paragraphs

The Donaldson decision may create some uncertainty as to what applicant regards as the invention. If this issue arises, it should be addressed in a rejection under §112, 2d paragraph. While § 112, 6th paragraph permits a particular form of claim limitation, it can not be read as creating an exception either to the description, enablement or best mode requirements of the 1st paragraph or the definiteness requirement of the 2d paragraph of § 112. In re Knowlton, 481 F.2d 1357, 178 USPQ 486 (CCPA 1973). If a "means or step plus function" limitation recited in a claim is not supported by corresponding structure, material or-acts in the specification disclosure, the following rejections should be considered: (1) under § 112, 1st paragraph, as not being supported by an enabling disclosure because the person skilled in the art would not know how to make and use the invention without a description of elements to perform the function; ²⁰ (2) under § 112, 2d paragraph, as being indefinite because the element or step is not defined in the specification by corresponding structure, material or acts; (3) under §§ 102 or 103 where the prior art anticipates or renders obvious the claimed subject matter including the means or step that performs the function specified in the claim. (Theory: since there is no corresponding structure, etc. in the specification to limit the means or step plus function limitation, an equivalent is any element that performs the specified function).

contrary to public policy of granting patents which provide adequate notice to the public as to a claim's true scope.

²⁰The description of an apparatus with block diagrams describing the function, but not the structure, of the apparatus is not fatal under the enablement requirement of § 112, 1st paragraph, as long as the structure is conventional and can be determined without an undue amount of experimentation. In re Ghiron, 442 F. 2d 985, 991,169 USPQ 723, 727 (CCPA 1971)

III. Avoid confusion with the doctrine of equivalents

An "equivalent" for the purposes of § 112, 6th paragraph, should not be confused with the doctrine of equivalents. The doctrine of equivalents, most often associated with Graver Tank & Mfg. Co. v. Linde Air Products 339 U.S. 605, 85 USPQ 328 (1950), is sometimes applied to do equity among the parties before the court in an infringement action involving an issued patent. The doctrine typically involves a three-part inquiry - whether an accused device performs substantially the same function, in substantially the same way, to obtain substantially the same result as the claimed invention.

Section § 112, 6th paragraph limits the scope of the broad language of "means or step plus function" limitations, in a claim to a combination, to the structures, materials and acts described in the specification and equivalents thereof. The doctrine of equivalents equitable expands exclusive patent rights beyond the literal scope of a claim.²¹ Accordingly, decisions involving the doctrine of equivalents should not unduly influence a determination under § 112, 6th paragraph during ex parte examination.

²¹ Valmont Industries Inc., Reinke Manufacturing Co., Ind., 983 F.2d 1039, 1043, 1044, 25 USPQ2d 1451, 1455 (Fed. Cir. 1993).